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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/920,268	07/31/2001	Sean Mountcastle	CISCP696	5701

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EXAMINER	
ROBERTS, BRIAN S	

ART UNIT	PAPER NUMBER
2662	

DATE MAILED: 08/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/920,268	MOUNTCASTLE, SEAN	
	Examiner	Art Unit	
	Brian Roberts	2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07/21/2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-6,9-11,14-22 and 26-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-6,9-11,14-22 and 26-29* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *7/21/2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

- Applicant's Amendment filed 5/24/2005 is acknowledged.
- The previous objection to the drawings is withdrawn.
- Claim 29 has been added.
- Claims 1,6,11,16,18,20, and 22 have been amended.
- Claims 2-3,7-8,12-13, and 23-25 have been cancelled.
- Claims 1,4-6,9-11,14-22, and 26-29 remain pending.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 4-6, 9-11, 14-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Hardwick et al. (US 550816)

- In reference to claims 1, 6, 11, 16, 18, and 20

Hardwick et al. teach a system and method that includes:

- Partitioning a network element that transmits data in a network (e.g. a switch) into a plurality of virtual network elements
- A management system allowing "for a percentage of total heap space to be provisioned as the maximum amount of memory which the VR and its subcomponents can obtain." (column 34 lines 19-21) (allocating a portion of

the resources of the network element to one of the plurality of virtual network elements);

- "When a VR attempts to allocate an amount of memory which would exceed the maximum allowed, it will be denied." (column 34 lines 37-39) (permitting the one of the plurality of virtual network elements to utilize only the portion of the resource of the network element that has been allocated to the one of the plurality of virtual network elements)
- A management system for managing:
  - Memory (column 34 lines 7-60)
  - Ports (column 7 lines 36-40).
  - The operations of a first virtual closed user group processor are divided between a first virtual closed user group processor are divided between a first and a second virtual switch. This spreads the processing load between two virtual switches. (column 9 lines 58-61; column 26 lines 36-51) (processor time)
  - Virtual closed user groups where a each virtual closed user group only has access to specific destination identifiers owned by that particular virtual closed user group so that a protocol data unit having a destination identifier which is not owned by the particular virtual closed user group will not be delivered (column 8 line 63 – column 9 line 10) Each virtual closed user group is assigned incoming traffic based on an access policy that is

separately specified in each virtual closed user group (column 29 lines 35-41; Figure 6 206) (bandwidth)

- In reference to claims 4-5, 9-10, 14-15, 17, 19, and 21

Hardwick et al. teaches a system and method that covers substantially all limitations of the parent claim. Hardwick et al. teaches partitioning a network element that transmits data in a network (e.g. a switch) into a plurality of virtual network elements (abstract, column 23 lines 14-19) (network element that is used to transmits data is a switch).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 22, 26-28 are rejected under 35 U.S.C (a) as being unpatentable over Hardwick et al. (US 550816)

- In reference to claims 22 and 26

Hardwick et al. teaches a method that includes:

- Partitioning a network element that transmits data in a network (e.g. a switch) into a plurality of virtual network elements

- A management system allowing "for a percentage of total heap space to be provisioned as the maximum amount of memory which the VR and its subcomponents can obtain." (column 34 lines 19-21) (allocating a portion of the resources of the network element to one of the plurality of virtual network elements);
- "When a VR attempts to allocate an amount of memory which would exceed the maximum allowed, it will be denied." (column 34 lines 37-39) (permitting the one of the plurality of virtual network elements to utilize only the portion of the resource of the network element that has been allocated to the one of the plurality of virtual network elements)
- A management system for managing:
  - Memory (column 34 lines 7-60)
  - Ports (column 7 lines 36-40).
  - The operations of a first virtual closed user group processor are divided between a first virtual closed user group processor are divided between a first and a second virtual switch. This spreads the processing load between two virtual switches. (column 9 lines 58-61) (processor time)
  - Virtual closed user groups where a each virtual closed user group only has access to specific destination identifiers owned by that particular virtual closed user group so that a protocol data unit having a destination identifier which is not owned by the particular virtual closed user group will not be delivered (column 8 line 63 – column 9 line 10) Each virtual closed

user group is assigned incoming traffic based on an access policy that is separately specified in each virtual closed user group (column 29 lines 35-41; Figure 6 206) (bandwidth)

Hardwick et al. does not explicitly teach receiving input specifying an application binary then executing the application binary.

Hardwick et al. teaches a method of allocating a portion of available memory, processor time, and data ports to each virtual switch via input through software (column 49 lines 54-67, column 34 lines 7-60, column 24 lines 3-8, column 31 lines 41-43) (receiving input specifying a application binary and executing the application binary).

It would have been obvious to one of ordinary skill in the art at the time of the invention to receive input specifying an application binary and then executing the application to allocate a portion of the resources to a plurality of virtual switches because an application binary is software that ensures runtime compatibility, since it defines the machine language, or runtime, format and allows for the partitioning of resources amongst the virtual switches.

- In reference to claims 27-28

Hardwick et al. teaches a system and method that covers substantially all limitations of the parent claim. Hardwick et al. teaches partitioning a network element that transmits data in a network (e.g. a switch) into a plurality of virtual network elements (abstract, column 23 lines 14-19) (network element that is used to transmits data is a switch).

5. Claims 29 are rejected under 35 U.S.C (a) as being unpatentable over Hardwick et al. (US 550816) in view of Jagannathan (US 6763192).

- In reference to claim 29

Hardwick et al. teaches a system and method that covers substantially all limitations of the parent claim. Hardwick et al. further teaches a management apparatus (164) can reassign (update) the data ports between virtual switching devices (column 24 lines 3-8)

Hardwick et al. does not explicitly teach querying the virtual network manager for available ports.

In Figure 6, Jagannathan teaches a network manger requesting a port and a resource management mechanism querying a port availability database to determine the available ports.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the port reassignment system and method of Hardwick et al. to include a network manager requesting a resource management mechanism to query a port availability database as taught by Jagannathan prior to a network manager reassigning the data ports between virtual switching devices because querying a database that can store a list of the unassigned ports and a list of assigned ports with each virtual switching device would allow a network manager to further customize each virtual switching device as a distinct network element.

Response to Amendment

6. Applicant's arguments filed 7/21/2005 have been fully considered but they are not persuasive.

- In the Remarks on pg. 9 of the Amendment, the Applicant contents that Hardwick et al. does not teach managing processor time, bandwidth and port allocation.
- The Examiner respectfully disagrees. It is the opinion of the Examiner that the amendments to the independent claims fail to distinguish over Hardwick et al. Spreading the processing load between two virtual switches in Hardwick et al. is interpreted by the Examiner as "managing processing time". Assigning incoming traffic in Hardwick et al. is interpreted by the Examiner as "managing bandwidth". Moving the particular data port assignments between virtual switching devices as needed is interpreted by the Examiner as "managing port allocation".

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Roberts whose telephone number is (571) 272-3095. The examiner can normally be reached on M-F 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BSR
08/08/2005

JOHN PEZZLO
PRIMARY EXAMINER